PART V.—STALLIONS.

1. The following rules for the care of Government stallions, and remarks on breeding and rearing young stock have been approved by Government.

A.—GENERAL CARE OF STALLIONS.

Feeding.—These horses must be fed liberally on good plain grain and fodder. The ration necessary for each animal will vary according to his size, age, make and digestive powers; also according to the season and the amount of work he has to do. Old horses usually require more than young ones; those that have been much raced than those that have not. Horses in full work should have as much grain as they can digest; when more is given, the dung becomes broken and foul, which is the sign for decreasing the allowance and giving some extra green food and bran for a time. The same applies also in case of constipation. The extreme ration of grain would be from 6 lbs. for a small Arab galloway to 12 lbs. for a large English or Colonial; this includes every kind of grain given.

Kinds of Grain.—*Gram* is the most common food in this Presidency and, all things considered, is probably the best; but kulti, in use in the southern parts, is almost equally good; it requires to be boiled.

Bâjri is sometimes given, and is not objectionable; made into bread and given with spices, it is useful in restoring the condition and vigour of horses that have become "tunda."

Mutt also is a nutritious and useful grain; it requires to be well steeped and without that is dangerous.

Barley is less often used, and never as the only grain ration. Sometimes, especially if parched, it is advantageously given with gram for the purpose of restoring horses' condition.

Bran (wheaten) is useful as a laxative when given in the form of mash, that is thoroughly scalded. When horses are not in full work, a little may be given in lieu of a portion of grain ration, substituted weight for weight. But much of it, unless properly scalded, which is seldom done, is dangerous, causing constipation and colic.

FODDER.—*Dry Grass, Kirby* and *Huriali.*—These vary very much in different localities and seasons, and great care is always necessary in selecting the best procurable. The daily ration will vary with the size of the horse and the quality of the fodder, kirby being the most nutritious, dried huriali next, and dry grass least; say from 15 lbs. to 25 lbs. per diem; and, if horses are travelling, an additional allowance must be made for waste.

GREEN FOOD.—*Lucerne Grass* and *Carrots.*—A little of each of these, when procurable, is useful

in keeping horses in health; and they may be given more largely in cases of sickness or debility. Ordinarily 10 lbs. of the former and 5 lbs. of the latter is as much as should be allowed, to be doubled in case of sickness, &c.

The natives believe that carrots make a horse "tunda"; and, though it is probable there is no truth in this, their prejudices have often to be considered.

Green kuriali would be valuable if its purity could be ensured, but this can hardly ever be done, and the mixed grasses brought by grass-cutters are dangerous; better, therefore, eschewed.

Mussalahs, Spices, Condiments.—The constant or frequent use of these things, of which native horse-owners and attendants are so fond, is most injurious. They are given with the view to stimulate and increase a horse's vigour: perhaps they may do so for the time, but in the end they tend most materially to weaken those powers. They should never be allowed except in case of sickness, and then only under advice.

Salt.—This, on the other hand, is very beneficial, and should form a part of the horse's daily ration. The best way is to give a lump of rock salt, which he may lick at pleasure; failing this, half an ounce daily may be given in the food.

General Remark.—A little variety of food occasionally is as desirable and pleasant to horses as to men; but sudden and great changes are to be avoided.

Water.—Care is requisite that this is always pure and sweet; that from running streams or wells is to be preferred, stagnant water being avoided as far as possible.

It is essential that horses should always be watered before they have their grain; to do so afterwards is most dangerous, and many horses' lives have been sacrificed thereby.

On this point natives generally think the contrary, and they are very obstinate about it; but this is a case in which their prejudices are on no account to be given in to, and stringent measures are requsite to compel the syces to act as above directed.

In hot weather the horses should be watered three times a day, say after the morning's walk, at 11 A.M. (being fed at noon), and again after the evening's walk. In very hot places and seasons another pailful, the last thing at night, would be a great comfort to them. In cold weather twice daily would be sufficient, say half an hour before the morning and evening feeds respectively, care being taken as regards the first that the water is not too cold.

The best plan of all is to leave a large tub of fresh water always within a horse's reach.

Exercise.—The necessity of giving this to Government stallions is too often ignored; and the want of it prevents horses digesting their food properly, and so makes them lose condition. Every horse in health should be walked out at a good brisk pace for at least an hour morning and evening; or, where practicable, it is better to make them walk a certain distance, say, four miles twice a day, or five in the morning and three in the evening.

When the syce is good and trustworthy, he may with advantage be allowed to ride the horse at exercise, but only at a walk.

Grooming.—This also requires much looking after; it is as essential to perfect health and condition as food and exercise are. It should be done chiefly with the horse-brush, the hand rubber (hatali), and with the hand. The use of curry-combs on the thin skins of blood-horses is irritating, injurious and unnecessary.

The test of good grooming is a glossy coat, the absence of stain on the fingers when the hair is roughed up the wrong way, and of scurf in the mane and tail.

Washing.—This is a useless and dangerous practice: useless, because it can never take the place of grooming; dangerous, because it is so apt to cause rheumatism, kumri, catarrh, bursati, grease, &c. This is another point on which syces are very obstinate; they think it saves trouble; the temptation also to wash the stains off light grey and white horses is great, while with them the risk is greater than with others, as they are more liable to the above diseases.

Many officers and others, who ought to know better, still maintain that washing horses is a good thing. A little thought will show the futility of it as a means of really cleaning a horse's skin; all it can do is to remove extraneous dirt from the hair. The scurf and dandruff, which it is the object of grooming to remove, remain more firmly caked on the skin after washing than before. The danger of washing has been proved by the observation of many professional men extending over many years.

It arises from the almost impossibility there is of properly protecting horses from drafts of wind, all our stables in this country being so open; and from the carelessness of syces in not drying horses after they have been washed. They only wash horses to save themselves trouble, whereas, if properly done, it is more trouble than ordinary grooming; for after washing safety requires that the horse should first be thoroughly dried, then clothed and trotted till he sweats a little, then dried again, be clothed lightly and walked about till the natural temperature of his skin is restored.

Cleaning the feet, an essential part of grooming.—The feet must be picked out twice at least

daily, and always be kept clean and dry; otherwise, especially where the horse cannot be regularly shod, disease is certain to supervene.

Shoeing.—Many horses, particularly Arabs, have such strong and sound feet that they do not require to be shod at all, epecially when there is no travelling and their exercising ground is not stony; in such cases shoeing is best dispensed with. Most English horses, however, and all horses with weak or flat feet, must be shod; and in that case it should be done as regularly as possible once a month, and care should be taken to employ the best workman within reach; and those in charge should see that the shoes put on are large enough, and that no rasping of the outer crust is allowed, nor any paring of the sole and frog.

Stables.—Ventilation.—The stable windows and all apertures (ventilators) in the walls, below and above, and through the ceiling should always be kept open.

Cleanliness necessary.—The floors of the stalls must always be kept clean and level. Dung and urine are to be immediately removed and dry earth placed upon the floor where the urine has fallen. The evacuations, soiled portion of the bedding and foul earth of the floor, should be thrown to a distance to prevent offensive smells reaching the stables. If these precautions are not strictly observed, the stallions are likely to get sick and their feet to become diseased.

Bedding.—A sufficient quantity of bedding must be provided to enable the horses to lie down comfortably. Every morning it should be exposed to the sun to dry, and when it gets old, it should be thrown away and replaced by a fresh supply.

Stallions, when in the stable, are not to be tied up except when being groomed. Head and heel ropes are not to be used.

B.—SERVICES OF THE STALLIONS.

Number of Mares allowed.—One mare in four days is enough for a horse: more will overtax his powers: but it is sometimes difficult to adhere rigidly to this limit, without disappointing the owners of mares, who often come from a distance. It must be noted, however, that when horses cover too frequently, a smaller proportion of the mares hold; and this is just as disappointing to owners as not having their mares covered at all; and in addition the horse is injured, both actually and in his reputation. During the busy time the horse should have extra grain. Horses that have become "tunda" must have complete rest, and if necessary be put under treatment till fully restored; and afterwards their mares must be still more restricted in number.

Mares covered twice.—This is customary, whether necessary or not; properly the horse should be offered a second time after an interval of three

days; but natives coming from a distance can seldom wait so long, and a mare has generally to be covered on two consecutive days, or even morning and evening of the same day. Though this is objectionable as regards the horse, and probably useless as regards the mare, it is better to allow it than to send owners away discontented.

In many parts it is customary to have mares covered shortly after foaling, and the practice is not objectionable. Mares are believed by many to hold better then.

Choice of Stallion.—Theoretically this would best be left to the owner of each mare presented; but practically that is impossible, as natives nearly always choose the largest horse in the stud, and he would soon be worked impotent. Therefore, the selection must generally rest with those having charge of the stallions, who are seldom men with the requisite knowledge and discernment to match horse and mare judiciously; and so, too often, service goes by roster, the horse whose turn it is is brought out whatever the mare may be like; but it is very desirable selections should be made and with that view the following suggestions are offered:—

Suggestions—1*st*.—Regard should be had to mere size. The horse may be somewhat larger than the mare but a great disproportion is both dangerous and useless; the mare may be injured, and the result is not satisfactory; for the size of the progeny depends more upon the dam than the sire.

2*nd*.—The most prominent defect in the mare presented should be noticed, and a stallion selected that is good on that particular point. For instance, if a mare has long, weak, sloping pasterns, the horse must have them short, strong and, if anything, somewhat upright; if she has crooked hind legs, weak "sickle hocks," as so many country-bred mares have, the stallion chosen must have a straight, dropped hind leg with large bony hocks.

Every horse and every mare has a worst point: the thing is to see that both have not the same, so that the good may counteract the bad.

3*rd*.—The breed of the mare has to be considered, more especially with half-breds, which ought now to be coming forward as brood mares in large numbers; and to breeding from which we must mainly look to effect any permanent improvement in the breed of the country.

The principle to go upon is, a cross once effected to continue using stallions of the same breed as the one first crossed with. Thus, a mare by an Arab sire out of a country-bred dam should be put to an Arab stallion; one by an English sire to an English stallion. By these means, in the course of generations, a pure and lasting breed may be established; whereas, by constantly

changing from one breed to another, a mongrel race is produced, which can never be permanent.

The majority of the Government stallions being Arabs, this general rule may easily be attended to with regard to their progeny: but the English horses being so few, in their case exceptions must be allowed. It may even sometimes be advantageous to begin with the English cross, for the sake of obtaining size, and then to recur to Arab; but, when this is done either from necessity or from choice, the use of Arabs should be continued for many succeeding generations.

The general principle should be that the necessity for a cross to start with being admitted, subsequently purity of breed should be aimed at, and for that purpose stallions of the same breed and blood, if possible, should always be used; because chopping and changing, and frequent intermixture of breeds, must produce mongrels, probably useless, certainly evanescent as a breed.

4th, Unsoundness.—The above remarks, as regards weak points, apply with still greater force to unsoundness of an hereditary nature. A mare with spavined hocks, if bred from at all, should be put to a horse particularly clean in that point. If both sire and dam have spavins, their foal is almost certain to have them or get them when put to work.

So far as possible, breeding from unsound mares should be discouraged, and when the stallions are otherwise in full work such should be unhesitatingly rejected, as well as mares in very poor order or otherwise unsuitable to breed from.

The most common hereditary unsoundnesses are spavins, ringbones, ossified fet-locks, splents, cataracts.

C.—BROOD MARES.

Care of, before being covered.—This is little thought of by native owners, and not much is required beyond seeing that, on the one hand, they are not kept too fat and gross, as then they are not likely to hold; and on the other, that they are not over-worked, half starved and poor. A mare in fair working order, the result of good food and plenty of air and exercise, will be much more likely to come in "season" at the usual time, to hold when covered, and to throw without trouble or risk to herself a healthy foal, than a mare in either of the extremes previously mentioned.

Subsequent care.—During the time of gestation the mare requires a liberal diet, but overfeeding must be avoided; plenty of exercise, but without violence; and a large supply of fresh air, without exposure to bad weather. For the first six months her ordinary work, hack or other, may be continued; for the next three it must be lighter and slower; for the last two, to be a little more than walking exercise, but the more of that the better.

In some breeding districts, mares in foal, the more valuable ones particularly, are shut up without light and air, are highly fed and get no exercise. This system is perhaps even more injurious to the mare and detrimental to the coming foal than the opposite one, which leaves brood mares loose in the jungle to forage for themselves, though that too often means to be half starved.

Foaling.—At this time mares require, above all things, to be left alone. Given plently of room and left undisturbed, all generally goes well; assistance is very rarely required; and ignorant, unnecessary interference does harm and may endanger the life of the foal.

Afterwards.—In different parts of the country many fanciful practices are in use, for the supposed good of the mare and foal just born. I am not aware that any of them are actually injurious, and so it is better not to interfere with all-powerful custom; but now as during foaling the chief thing is to leave as much as possible to nature; feed the mare moderately well on soft and green food to keep the bowels open, allow plenty of liberty and fresh air, and nothing more is required for the first two months.

D.—REARING YOUNG STOCK.

Time of Nursing.—In Káthiáwár and some other breeding districts, it is customary to wean the foals at two months old, because, they say, longer suckling weakens the mare. This is a great mistake: all other of the larger mammalia suckle their young for much longer periods; as mares do in other districts, without detriment to themselves, and with positive benefit to the foals, who at two months are far too young to depend entirely on artificial food. A longer period of suckling need not interfere with the mares being moderately worked; indeed, it is better they should be, and if the foals accompany them on short journeys and excursions, the exercise thus obtained is most beneficial in hardening their legs and strengthening their muscles and sinews. The practice now advocated, as regards the larger and more valuable mares and foals, is in force as regards ponies; and to this cause it is greatly owing that Indian tattoos are so hardy and enduring, while Indian horses are so soft and unsound in their legs.

Artificial food.—If not weaned at two months, however, foals should then begin to have some artificial food. Those who can afford it give grain steeped in milk; others grain alone or milk; others merely what fodder is available. It is impossible to lay down any fixed rule as to what, and how much should be given; but no man can do wrong in feeding his young stock well, provided he gives at the same time a due proportion of exercise. The best fodder for brood mares and young stock which can be found in the cuntry

is a weed which over-runs many fields and injures the crops; this is "huriali," and if the farmers could be taught to recognize and save this grass, both their crops and their colts would benefit greatly thereby.

Exercise.—Here I find that native horse-breeders generally run into opposite extremes; the wealthy, horse-loving but custom-bound chiefs and gentlemen of Káthiáwár feed their foals highly and keep them shut up, often in dark stables or houses. The consequence is soft big bodies, with soft little legs, which become unsound when put to work. The poorer cultivators of the Deccan, on the contrary, feed their foals insufficiently, but give them a good deal of liberty; and here we get stunted animals with sound, large hard limbs: animals far better for work than to look at.

What we want is a happy combination of the two; let those who now feed their foals well continue to do so, but let them give plenty of liberty and exercise from the very day of birth until it is time for them to be put to work. Let those who now starve their foals be encouraged to spend a little money in feeding them, without in any way curtailing their liberty.

Breaking in.—Where foals have been reared in confinement and without exercise, this too often means breaking down. By suddenly taking a young colt from a completely idle life, and backing and riding him, he is very apt to get injured in his limbs somehow; and so it is that we see so many unsound horses where this practice prevails. With freedom and exercise, on the contrary, the bones and sinews become firm and strong, and the breaking in of colts may be undertaken with comparative safety, even at the early age at which Natives generally begin to do so. That they often do so too early is undoubted, which with the manner of doing it, with tight bearing reins and legs tied together, is most injurious and ruins many promising foals, causing injuries to the limbs, unsoundness, and at the best cramped and unnatural action.

Many brood mares also are permanently damaged, and their value lessened by the barbarous manner in which they are hobbled.

Sale of Colts and Fillies.—I would repeat that our main hope of establishing a permanent and good breed of horses in the country depends upon the mares, the produce of the imported stallions being retained for breeding purposes, and being put to horses of the same breed and blood as their sires. Every possible encouragement, therefore, should be given to breeders to keep their fillies and sell only or geld their colts.

Castration.—The advantages of this practice are many and great.

First as regards the animal himself. A colt when castrated is much more easily kept, he requires less food, and as he may with safety be let loose to graze, he can find a good deal of that food for himself, while the liberty and exercise develop his bone, muscle and sinew, and he grows into a much finer horse than the entire colt which must always be kept tied and gets insufficient exercise and depends for his food on what is brought to him.

Valuable prizes are given at all the horse shows for geldings.

Then as regards the breed of horses, the general introduction of the practice of castration would do more than almost anything else to improve it, as then only selected stallions would be used and that promiscuous or accidental intercourse between horses (or tattoos) and mares, which is now so frequent and so detrimental, would be prevented.

Another advantage of all colts being geldings would be that then mares and fillies could be allowed that liberty which is so good for them, but which now has to be refused on account of the risk of a stray stallion pony getting at and covering them—an accident that often happens now, though mares are kept so much tied up.

Use of half-breds as Stallions.—This should be particularly discouraged, as none but purely bred horses can favourably influence the progeny.

(G. Rs. Nos. 3295, dated 10th June 1873, and 1775, dated 15th March 1882.)

2. The following rules for the care of Government stallions are to be posted up in each stallion's stable:—

I. *Ventilation.*—The stable windows, and all apertures (ventilators) in the walls, below and above, and through the ceiling, should always be kept open.

Between the hours of 10 A. M., and 4 P. M., during the hot months, when flies are troublesome, and in the winter nights when the air is cold and chill, the chicks of the doorways should be let down.

II. *Stables to be kept clean.*—The floor of the stalls should always be kept clean and level.

Dung and urine to be immediately removed, and dry earth placed upon the part where urine has fallen.

The evacuations, soiled portion of the bedding, and foul earth of the floor, should be thrown at a distance, to prevent offensive smell reaching the stable.

If these precautions are not strictly observed, the stallions are liable to get sick and their feet diseased.

III. *Bedding.*—A sufficient quantity of bedding must be provided, to enable the stallions to lie down comfortably.

Every morning the bedding should be exposed to the sun to dry.

When the bedding gets old, it should be thrown away, and replaced by a fresh supply.

IV. *Gate of the Stallion Stable compound.*—To prevent other horses coming into the stallion stable compound, a strong gate should be erected, and walls (not less than five feet high) built around the compound.

V. *Tying up Stallions prohibited.*—Stallions, when in the stable, are not to be tied up except when being groomed.

Head and heel ropes are not to be used.

The doorways of the stalls should be fitted with strong gates.

VI. *Watering.*—Stallions should be watered three times a day, and should not be fed till half an hour after watering. A horse when watered soon after eating grain, is very liable to get gripes.

VII. *Feed of Stallions.*—The following is the average ration per diem for stallions, large horses receiving more, small ones less, *viz.* :—

8 lbs. of well-crushed gram. or of kulti, boiled, or half and half of each.

2 lbs. bran.

20 lbs. dry grass or kirbi or 40 lbs. *huriali* grass.

10 lbs. lucerne grass. } When procurable.
4 lbs. carrots. }

If the horse can eat more than 40 lbs. *huriali* it should be given to him.

VIII. *Grooming.*—Stallions should be well groomed with the brush twice a day.

The brush is to be cleaned with the curry-comb.

The curry-comb is not to be applied to the horse.

When the horse is not properly groomed, he is liable to have skin disease.

IX. *Washing prohibited.*—Stallions should not be bathed or washed; either one or the other is likely to produce rheumatism and weakness of the loins.

X. *Exercise.*—Stallions to have about two hours of fast walking exercise, morning and evening, at a place unfrequented by the other horses.

XI. *Picketting Stallions out at night.*—During the summer months, when the stables are hot at night, the stallions should be picketted out in the stable yard (surrounded by a wall or rail fence) tied by the head only, from 7 P.M. to 4 A.M.

Heel ropes are not to be used in picketting the stallions.

XII. *Stallions to be shod.*—Stallions are to be shod when shoes are deemed necessary.

When shod the shoes should be removed, the feet duly reduced, and the old or new shoes applied, once a month.

XIII. *Serving of mares.*—A stallion should not be allowed to serve more than twice in one day (either one mare twice or two mares once each), *viz.*, once in the morning and the other in the evening.

He is not to cover more than five times during the week.

He is not to serve more than 50 mares during the year without the sanction of the Superintendent, Civil Veterinary Department.

When a mare is being covered, both her hind-legs and one fore-leg should be hobbled in the usual way.

XIV. *Only* ⅄ *and* D *branded mares to be served.*—Only mares that have been inspected, branded ⅄ or D and registered, will be served by the stallions.

It is strictly forbidden to allow any other mares to be covered by Government stallions.

Mares branded ⅄ but under four years of age, are not to be served.

XV. *Fees, covering, prohibited.*—No fees of any kind are to be given or received.

The Government stallions are allowed to cover ⅄ and D branded mares gratis.

Zilladárs and stallion-keepers are strictly forbidden to receive any fees directly or indirectly from the owners of mares.

XVI. *Sickness.*—In the event of a stallion becoming ill or getting injured, a report should be sent to the Superintendent, Civil Veterinary Department.

Should the sickness or injury be of a serious nature, and the stallion fit to be moved, he should be at once sent to the depôt hospital for treatment.

If any stallion is found to be weak, he should not be allowed to serve, and a report regarding his state should be submitted to the Superintendent, Horse-Breeding Operations.

When a stallion is found not to fill his mares, the circumstance should be reported to the Superintendent, Civil Veterinary Department.

Stallion-keepers should always have ready at hand the usual colic mixture and an enema pipe by them, so as to be able to treat such stallions as may get gripes.

The mixture to be given as directed.

As long as the symptoms of gripes continue, clysters of tepid water and oil should be administered.

(G. R. No. 6223, dated 9th September 1882.)

3. Government stallions should, as far as possible, cover not less than seven mares per mensem. (G. R. No. 3154, dated 2nd June 1881.)

4. Mares should at the desire of their owners be allowed to be covered twice, and a certificate should be promptly granted to the owner of each mare served. The officers in charge of the stallions should be careful in observing these instructions and prevent all cause of complaint on the part of the people. (G. R. No. 2651, dated 24th April 1882.)

5. No Government stallion should be allowed to remain in the same district for more than five years, so that the chance of his own fillies being served by him may be prevented. (G. R. No. 2155, dated 18th March 1886.)

6. In order to prevent the purchase of unsuitable stallions, all stallions to be maintained from Local Funds as well as others should be purchased or provided through the Superintendent, Civil Veterinary Department. (G. R. No. 6924, dated 19th November 1881.)

7. The Superintendent, Civil Veterinary Department, should be consulted before Government stallions are transferred to Native States. Government are not prepared to admit without reserve that it is for them to supply Government stallions to Darbárs, even if the latter agree to pay for the maintenance of the animals. There would seem to be no reason why a Darbár requiring superior stallions for breeding purposes should not purchase them in Bombay or elsewhere through either its own agents or the Superintendent, Civil Veterinary Department, who would doubtless be glad to render any assistance needed in the selection of suitable animals. (G. R. No. 2519, dated 1st April 1886.)

8. The system in Bengal, under which Native Chiefs and others are allowed to purchase Government stallions for *bonâ fide* stud purposes, is extended on the same terms to the Bombay Presidency. (G. R. No. 2110, dated 23rd March 1891.)

9. Whenever stallions are either sold by Government to, or purchased by Government on behalf of, District Boards or Court of Wards and other Estates, an undertaking should be obtained from the Board or Estate concerned that whenever it is intended to sell any stallion so obtained, the refusal of him will first be given to the Military Department. (G. I., R. & A., No. 1—7, dated 13th January 1893; *vide* G. R. No. 890, dated 1st February 1893.)

10. No English stallions less than 4 years old should be allotted for stud work in the Bombay Presidency. (G. R. No. 3564, dated 2nd May 1896.)

11. The retaining in depôt of all English stallions for the first year after their arrival in India, with the view of allowing them to have due care and management, with reference to their becoming accustomed to Indian grains and forage, and acclimatized, is a course that has been adopted, with satisfactory results, in the Bengal Presidency, and should be adopted in the Bombay Presidency. (G. R. No. 7813, dated 22nd December 1881.)

12. One-half of the *entire* charges incurred on account of the maintenance of all Government stallions stationed in any district should be defrayed from Local Funds.

In any case where a Collector is of opinion that the number of stallions kept in his district is distinctly in excess of the requirements of his Collectorate he should bring the matter to the notice of Government with a view to a reduction in their number, and consequently in the incidence of the charge on Local Funds. But if the number exceeds the need merely because the owners of mares either through apathy or prejudice refrain from availing themselves of the services of horses of a superior class, care should be taken to impress on such persons the advantages to be gained from the employment for breeding purposes of the Government stallions in preference to the weedy and unsound animals which are only too often used.

(G. Rs. Nos. 612, dated 28th January 1882, 7568, dated 30th October 1882, and 250, dated 11th January 1883.)

13. The expenses attendant upon the moving of stallions from one district to another should be defrayed from Provincial Revenues. (G. R. No. 250, dated 11th January 1883.)

14. The cost of construction and repairs of stallion stables should be regulated by the orders contained in the following memorandum from the Financial Department, No. 467, dated 3rd February 1893 :—

"The first question for consideration in these papers is whether the District Local Board of Ahmedabad is liable for the whole cost of repairs to stallions' stables in that district. In Government Resolution No. 1584, dated 25th May 1888, these works are classed as Local* ; but as stated by the Accountant General in his letter No. L. F.—18418, dated 6th October 1892, and as is evident from the memorandum from the Public Works Department, No. 86 A., dated 18th January 1888, this was done, not with a view to throw the whole cost of repairs on the Local Funds. The remarks made in para. 5 of that memorandum show that the Local Boards are not under a legal obligation to disburse that cost, and that what is expected from them is a voluntary contribution towards it. The Commissioner, Northern Division, observes that, as the charges on account of the maintenance of Government stallions in the Ahmedabad District are equally divided between Government and the Local Fund, it would be inequitable to require the Local Board to bear all the charges on account of repairs. There is no objection accordingly to the Local Board contributing a moiety only.

"The second question which arises for consideration is whether the Public Works or the Civil Department should bear the other moiety of the repairs charges ; and it can be disposed of in the light of the remarks contained in para. 5 of the memorandum from the Public Works Department, above referred to. It will be seen therefrom that, in the case of buildings costing below Rs. 1,000, the moiety will have to be provided from the Civil Budget, and in the case of those

* Under later orders passed in Government Resolution, Financial Department, No. 2467, dated 24th July 1896, stallions' stables are to be classed as "Provincial."

costing above Rs. 1,000, it will have to be provided from the Public Works assignment. In the present case, the stallions' stables in the Ahmedabad District are borne on the Public Works List, and presumably, therefore, their cost is above Rs. 1,000. The Public Works Department should, therefore, bear a moiety of the charges for repairs, unless it can show that the cost of the building is below Rs. 1,000."

(G. R., P. W. D., No. 171A.-645, dated 21th April 1893; *vide* G. M. No. 4068, dated 5th June 1893.)

15. The stallions belonging to the Civil Veterinary Department in this Presidency should be branded with a progressive register number, the horse on the near saddle-place and the donkeys on the near hind-quarter. This practice will allow of detection in case of an animal being stolen or, in the event of an animal dying, of having the branded portion of his hide submitted with report of the death. (G. R. No. 2156, dated 18th March 1886.)

16. The horse-breeding brand in the Bombay Presidency should be **V I**, instead of the broad arrow. (G. R. No. 4410, dated 24th June 1890.)

17. Collectors should take pains to obtain for the Superintendent, Civil Veterinary Department, accurate information regarding the number of foals resulting from the coverings of Government stallions. (G. R. No. 5833, dated 13th August 1886.)

18. District officers should furnish the Superintendent, Civil Veterinary Department, with quarterly returns containing information as to the number of mares covered by each Government stallion in their charge, at the same time giving their opinion if the results are unsatisfactory. On receipt of such returns the Superintendent will take steps to remove the stallion from the stand if found necessary. (G. R. No. 5416, dated 29th July 1889.)

19. In all cases in which the sale or destruction of stallions is recommended, the Superintendent should report when and how the animals were obtained for Government. (G. R. No. 8369, dated 15th December 1888.)

(2). As the Bombay stallions are under the control of the Local Government, the sale-proceeds, should that Government in the due exercise of its control and in regular course of business dispose of a stallion, are properly credited to Provincial Revenues, so long as according to the contract in force for the time being they fall under a Provincial head of account.

(G. I., R. & A., No. 753-12-2, dated 20th May 1897; *vide* G. R. No. 4535, dated 16th June 1897).

20. The supervision and management of the Government stallions stationed at the Ahmednagar depôt and the work of keeping accounts connected with it should be conducted by the Superintendent, Civil Veterinary Department, whose head-quarters office is now established at Ahmednagar. This order relates solely to the Government stallions stationed

at the Ahmednagar depôt; it does not refer to the stallions stationed in the Ahmednagar District. In the case of the latter animals, the system previously in force remains unaltered. (G. Rs. Nos. 2387, dated 2nd April 1890, and 4998, dated 18th July 1890.)

21. The following arrangements have been sanctioned for the allotment, receipt and transmission of stallions imported by the Civil Veterinary Department:—

(1). The horses and donkeys imported by the Civil Veterinary Department should, on arrival in Bombay, be handed over to the Principal, Bombay Veterinary College; and the animals intended to be sent to Babugarh should not be detained in Bombay longer than is absolutely necessary.

(2). The Superintendent, Civil Veterinary Department, should submit to the Inspector-General, Civil Veterinary Department, a report as to the suitability of the animals allotted to the Bombay Presidency, as soon as possible after their arrival.

(G. Rs. Nos. 5359, dated 16th July 1895, and 8002, dated 14th October 1895.)

22. The Government of India have no objection to the utilization of any balance of the sums granted for loans under the Agriculturists' and Land Improvement Loans Acts as loans on the responsibility of the Local Government to local bodies and land-owners, who are willing to purchase stallions, but cannot afford to pay down the whole cost at once. In cases where the stallions are to be used for agricultural operations, the loans may be made under the provisions of the former Act. But where such is not the case, the recovery of the advances should be regulated by the rules under the Act so far as they may be found applicable.

An account of any loans granted in accordance with these instructions should be given in the annual report of the veterinary officer of the province.

As far as possible, the purchase of stallions should be effected under the general advice of the Inspector-General, Civil Veterinary Department, who has been permitted to maintain at Babugarh a reserve of stallions of suitable quality for supply at a reasonable price to local bodies, Court of Wards' estates, land-owners and others who may, under such rules as the Local Government may prescribe, make application for them.

(G. I., R. & A., No. 26-26, dated 14th July 1892; *vide* G. R. No. 6344, dated 5th August 1892.)

23. The Superintendent of the Civil Veterinary Department should report for the previous sanction of the Survey Commissioner and Director of Land Records and Agriculture proposed transfers of stallions from one district or station to another. (G. R. No. 4384, dated 19th June 1893.)

PART VI.—HORSE AND MULE-BREEDING OPERATIONS.

1. The attention of the Government of India having been attracted to the Resolution of the Government of Madras, No. 2683, dated the 30th April 1880, recorded in the proceedings of that Government, No. 515 of April 1880, fixing from Rs. 40 to Rs. 60 as the price that Government will be prepared to pay for yearling mules, the produce of Government donkey stallions and private pony mares, passed by the Government officer in 1880-81, 1881-82 and 1882-83, the Government of India intimated that such a measure was not contemplated by them, being a deviation from the principles laid down by them for the encouragement of the horse and mule-breeding industry in India.

The course open to the Government of Madras, to hold out inducements to encourage the industry, was to offer prizes.

The Government of Madras having protested against power being withheld from them to sanction compensation for a pony mare which died after being covered by a donkey stallion when already in foal, the Government of India observed that the question was not as to permission being withheld from the Government of Madras to be allowed to sanction payment of such trifling expenditure as that brought to notice, but as to the introduction, by means of such payments, of a system which the Government of India, after dearly bought experience, had deliberately condemned as costly and inefficient.

The object of the Governor General in Council is to secure adherence to the principles laid down, by the adoption throughout India of the system which was deliberately sanctioned by Government as being not only the most efficient but also the most economical.

This is the system which has met with so much success in the Punjáb, and which is recommended as the only economical system, and which, briefly, is simply the free supply of Government stallions to branded mares, the brand imposing no obligation and conferring no claim on either side beyond the right to the services of a Government stallion, the liberal grant of prizes at fairs and shows, and the ready purchase of the produce, *when fit for work*, at remunerative rates.

The grant of any adventitious aid, either in horse- or mule-breeding operations, is deprecated by the Secretary of State and the Government of India; and it is considered advisable to introduce from the outset the system which is to be permanently maintained, and to try the experiment in a legitimate way rather than to foster an artificial and expensive system which must eventually be given up, or try and bribe the people into pursuits for which they may not be naturally inclined, by the offer of bonuses for each foal dropped, or by the purchase of yearling stock to be kept at the expense of Government for three years before it can be fit for use.

The success of the scheme of mule-breeding is mainly dependent on the interest district officers take in it; and if their efforts are rightly directed, there is every reason to hope that the system which has taken firm root in the Punjáb, with excellent results, will, in time, materially improve the native breeds, and that eventually there will be a supply of mules for military purposes available in India itself, and produced without the direct intervention of the State.

(G. I., M. D., No. 1590-S. D., dated 24th September 1880; *vide* G. R. No. 6117, dated 19th November 1880.)

2. The *presentation* of cast mares fit for brood purposes to breeders for the encouragement of the mule-breeding industry is inexpedient as being a departure from the principles laid down for the operations of the Department of Horse-Breeding Operations, *viz.*, that the only direct aid to horse and mule-breeding operations should be the free use of Government stallions, the grant of prizes at fairs and shows, and the purchase at liberal market-rates of the produce. (G. I., M. D., No. 1801-S. D., dated 14th October 1880; *vide* G. R. No. 6224, dated 24th November 1880.)

3. Both in the interests of the public and the State, it is of great importance that the indigenous supply of these useful animals should be improved and increased, and that an industry, at once easy and profitable, should be fostered among the agricultural population. (G. I., R. & A., No. 21-113, dated 1st June 1893; *vide* G. R. No. 5722, dated 8th August 1893.)

4. The following letter from the Inspector-General, Civil Veterinary Department, No. 35, Revenue and Agriculture, dated 14th May 1890, to the address of the Government of India, was circulated to the Collectors with a view to its contents being made generally known among the local and municipal bodies and agriculturists throughout their respective districts. The district authorities were also invited to promote the measures advocated by the Government of India by explaining to the people the profits and advantages of mule-breeding, and it was directed that the action taken by the several officers concerned and the progress made by them in the development of the mule-breeding industry should be noticed in the annual veterinary and agricultural reports:—

"In reply to your No. 1460-3-8, H. B. & A. S., dated 26th March 1890, I have the honour to submit, for the consideration of the Government of India, my views regarding the desirability, I may say necessity, of developing the mule-breeding industry in all districts where horse, pony or donkey-breeding are found to be successful—

(1) With regard to obtaining a sufficient supply of mules bred in India for army purposes, also for the public, I have to note that the supply of mules is not sufficient either for the army or public. Indian-bred mules are admirably suited for army and pack work, being very

hardy and, as a rule, docile; can be bred at a very moderate cost; can be bought at a price remunerative to the breeder and at a much lower price (including cost of transit, &c.) than is paid by the Government for mules purchased in Persia and other foreign countries. It, therefore, is obvious that mule-breeding should be fostered and developed in India, in order that all the money paid for mules should be received by the breeders of India and not sent to foreign countries. Moreover, with reference to army requirements, it is expedient that measures be adopted to guarantee a sufficient home supply of mules for army purposes.

(2) The Government of India provide 325 donkeys for the mule-breeding districts of Northern India and Bombay, and these stallions are distributed in the districts where mule-breeding is carried on; but the number is found insufficient, and frequently indents are made on the Civil Veterinary Department for more donkeys. I would therefore earnestly suggest, for the consideration of Local Governments, the desirability of increasing the number of stallions in those districts where more are required, and of enjoining Civil Officers to do their utmost to inaugurate mule-breeding in districts where horse, pony, or donkey-breeding may be carried on with success, and in other districts where there is reason to believe the industry will thrive.

"2. With regard to introducing mule-breeding in districts where the industry has never been attempted, either on account of this class of animal not having been required, or perhaps from objections having been raised to the producing of the mule, I am aware it has been stated that Hindus have an objection, on moral grounds, to allow their horse or pony mares to become mule-breeders, believing that the mares must be raped by the donkey; but as nature allows the hybrid to be produced under ordinary circumstances, for example, when a male donkey is let loose with pony mares, and mules are thus produced; moreover, when it is found that the mule is a more useful and valuable animal, there can be no reason remaining why advantage should not be taken of the hybrid being secured. I would here bring to notice that 14 years ago, mule-breeding had never been attempted in the North-Western Provinces; but on the representations made to owners of small mares by the Horse-Breeding Department, that mule-breeding from such mares would pay better than horse or pony-breeding, the industry was gradually started, and at the present date about 100 donkey stallions are employed in the breeding districts of the North-Western Provinces and more are required.

"3. A mule is easy to rear, and has a very hardy constitution, doubtless imparted by his sire, and during seasons of drought or on service, when pasturage or forage is scant, the mule will continue at work on short commons much longer than a pony.

"4. Mules when at pasture not only eat grass, but browse off herbs and shrubs; hence again why when pasture is scarce the mule is found to do better than a pony. In constitution and limb the mule is strong, and continues at work for many years longer than a pony. It will therefore be understood that mule-breeding is a safer investment than pony-breeding, and the fact that the mule is more valuable in the market than a pony and costs no more in rearing, and that this industry is within the reach of the poorer agriculturists, it behoves Civil authorities to have the subject clearly put before their agriculturists. With regard to the dieting of mules, it must be mentioned that they are particular as regards their drinking-water, inasmuch as they refuse any but pure water. This fact tends to rendering them more protected from disease, as doubtless impure water is frequently productive of malady.

"5. With regard to the prices obtained for mules at horse fairs and shows, during the last few years, it is found that these average from Rs. 50 to Rs. 500, according to the age, size, and worth of an animal.

"The cost of rearing a mule up to three years of age, when it becomes fit for light work, may be put down from Rs. 40 to Rs. 100.

"The profit on mule-breeding can thus be estimated.

"6. Considering the important facts above noted, I feel it incumbent on this Department to most earnestly suggest for the consideration, and I hope action, of Local Governments and Administrations to advise District Boards and Agricultural Associations to foster and develop this remunerative industry on revenue and public grounds. This can be practically done by their providing any additional donkeys above the 325 already furnished by Government and placing them under the charge of District Officers at Tahsils or other centres where pony mares are found.

(3) The price of donkey stallions depends upon their size and breed. The best donkey stallions employed in India are obtained by the Government from Italy, France, and Spain, at an average cost of Rs. 850 per head, exclusive of importing charges.

Persian donkey stallions and Punjáb-bred ones—the latter generally the produce of Government Italian sires—can be purchased for Rs. 150 to Rs. 200, and both the latter breeds are found well suited for ordinary mule-breeding. The cost of the keep of donkey stallions is found to be from Rs. 12 to Rs. 14 per month, according to rate of forage, grain and syces' wages.

(4) The time of year most favourable for obtaining country-bred donkey stallions is during the cold weather months at the horse fairs and shows in the Punjáb and Sind. Persian donkeys have lately been secured, with batches of mules bought and imported by Government from Persia. Some of this breed have been obtained through the agency of Persian dealers who annually import horses to the Bombay market.

"Occasionally Bokhára and Kurdistán donkeys of good class are found for sale at prices ranging from Rs. 120 to Rs. 200 each, at the Ráwalpindi and Sibi (Baluchistán) fairs.

(5) In the event of District Boards or Agricultural Societies desiring to obtain donkeys for their districts, the Civil Veterinary Department will be glad to advise as to where any stallions may, at the time, be obtained.

(6) In conclusion, I would point out the advantages of using pony mares for farm purposes. At the Government Depôt at Bábugarh, near Hápur, pony mares are employed for all the farm and garden work, such as ploughing, drawing water and cart work. These mares perform all such work as satisfactorily as bullocks, *and they are employed as mule-breeders.*

"7. Excellent mules, considered as good as many imported from Persia and the Mediterranean, have been bred from these pony mares; therefore the disadvantage of employing bullocks for farm work, inasmuch as they cannot produce stock, is evident. I would urge the desirability of employing pony mares in agricultural work. Horse stock is used with advantage in ekkas and tongas, and will be found most useful for farm work; I trust, therefore, that District Boards and Agricultural Societies will be so good as to induce farmers and others to co-operate with the Civil Veterinary Department in developing and furthering the interest of breeders by pointing out the advantages of mule-breeding."

(G. R. No. 5722, dated 8th August 1893).

5. The special attention of the Commissioners and Collectors, the Survey Commissioner and Direc-

tor of Land Records and Agriculture, and the Superintendent, Civil Veterinary Department, was called to the remarks and suggestions made in the following letter No. 1775-M., dated 22nd September 1893, from the Inspector-General, Civil Veterinary Department, and they were requested to impress on the several Local and Municipal bodies, as well as large landholders, the advantages of improving the supply of horse and mule stock of the country by developing the industry of mule-breeding :—

"I have the honour to suggest the following course being adopted in view to timely notice being afforded to this Department of the local requirements of horse and donkey stallions :—

(*a*) That indents prepared in the accompanying form A† for horse stallions and B† for donkey stallions be sent by District Officers or others to the Superintendent, Civil Veterinary Department, by 15th July, and should be forwarded by the Superintendent, Civil Veterinary Department, so as to reach this office not later than the 1st August of each year.

(*b*) As no funds are available in this Department for the payment of other than Imperial stallions supplied by the Government of India, it is suggested that Local Boards, Municipalities, Court of Ward Estates, large land-holders or other private persons, desirous of purchasing stallions for stud purposes, be asked to forward by money order, to the office of Inspector-General, Civil Veterinary Department, Meerut, before the 1st August, a sum of money equivalent to the price and incidental charges of the number and description of stallions required during the ensuing year. A detailed account of each sum so forwarded will be rendered by this office, on supply of the stallions indented for.

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"3. When the required number of stallions indented for have been obtained, intimation will be given by this office to the indenting officer, with a request that he will be good enough to depute a responsible agent to the Bábugarh Depôt, or other place that will be noted to receive charge of the stallions. The agent to be provided with sufficient funds to pay for the railway freight of the stallions and other incidental charges from the Bábugarh Depôt to place of destination.

"4. I take the opportunity of mentioning that the Government of India in the Military Department have recently intimated to this office that they look to the Civil Veterinary Department to enjoin Local Boards, Municipalities, Courts of Wards and rich Zamindárs, to undertake mule-breeding as a profitable investment, and in this direction, rather than in any increase in the number of Imperial stallions, must improvement in the supply of horse and mule stock be looked for. I shall, therefore, feel much obliged by District authorities and the Superintendent, Civil Veterinary Department, being invited to promote the measures above advocated."

(G. R. No. 7535, dated 14th October 1893.)

6. The Government of India are unable to sanction any revision of the rule under which the purchase of mules under 3 years of age for Government is prohibited. (G. I., M. D., No. 1831, dated 22nd April 1895; *vide* G. R. No. 5462, dated 19th July 1895.)

† Not printed.